

REMARKS

Claims 1-24 are pending in the application. Claims 19-24 have been added. Favorable reconsideration of the application, as amended, is respectfully requested.

I. ALLOWABLE SUBJECT MATTER

Applicants acknowledge with appreciation the indicated allowability of claims 6, 7 and 16 subject to being rewritten in independent form. Claims 19-21 corresponding to these claims have been added as new claims, which are not dependent upon any rejected base claim. Thus, new claims 19-21 are believed to be in condition for allowance. For at least the reasons set forth below, it is respectfully submitted that other pending claims are also in condition for allowance.

II. REJECTIONS OF CLAIMS 1-5, 8-15, 17 AND 18 UNDER 35 U.S.C. § 102(e)

Claims 1-5, 8-15, 17 and 18 stand rejected under 35 U.S.C. § 102(e) as being unpatentable over U.S. Patent No. 6,160,571 ("Wang"). Withdrawal of the rejections is respectfully requested for at least the following reasons.

The invention defined in independent claims 1, 10 and 18 relates to a cable modem including an upstream transmitter and a switch. Specifically, independent claims 1, 10 and 18 require that the switch is enabled and disabled (or, activated and deactivated) by a "control signal from the upstream transmitter." A specific embodiment of such system according to the invention is illustrated in FIGS. 4A and 4B. In the specific embodiment shown in FIG. 4A, the switch component 410 is enabled and disabled by a control signal from the upstream transmitter 406 through the control line 412. See, e.g., page 19, line 8 - page 20, line 3 of the present specification.

Newly cited Wang describes a CATV transceiver 12 which includes the AGC 104, and the driver 108. From the office action, it appears that the Examiner views driver 108 (or possibly driver 108 together with bias circuit 106) as the "switch" in claim 1. As shown in FIG. 2, the driver 108 is shut down in response to a PSave signal 110, which is "effectively used as a transmitter enable signal" (Wang, column 6, lines 38-41). So it appears that the Examiner likely views PSave signal 110 (or the related signal from bias circuit 106) as the "control signal" in claim 1. Note that claim 1 requires that the control signal is emitted by an "upstream transmitter." In the Wang patent, a transmitter 32 is likely the component that the Examiner views as corresponding to the "upstream transmitter" in claim 1.

So in order for the Wang system to suggest the relevant features of the claimed invention, it should show that its control signal (PSave signal 110) comes from its upstream transmitter (transmitter 32). Wang points out that PSave signal 110 is controlled by the DSP 16 (*Id.*). Turning now to FIG. 1, the DSP 16 is implemented as an individual, separate component different from the CATV transceiver 12. The DSP 16 generates various control signals including the PSave signal 110 and outputs them to the transceiver 12 (column 4, lines 13-21). In other words, according to Wang, the driver 108 is controlled by a signal from an external unit outside of the transceiver 12, which includes the transmitter 32 (i.e., an upstream transmitter) and the receiver 34. Due to its position in the circuitry, the DSP 16 is not an “upstream transmitter” within the meaning of claim 1. As such, Wang fails to teach or suggest a switch which is enabled and disabled by a control signal from the upstream transmitter.

The fact that the driver 108 is controlled by a signal from a component other than an upstream transmitter is also illustrated by FIGS. 3A and 3C of Wang. Specifically, these figures show that the PSave signal 110 is received at an external connector on the printed circuit board 118 contained in the CATV transceiver 12. That is, the PSave signal 110 is provided by a component other than the transceiver 12. Here, a component (specifically, the DSP 16) which is external to the transceiver 12 provides the PSave signal 110 for controlling the driver 108. Thus, Wang does not show a device in which a switch is enabled and disabled by a control signal from an upstream transmitter. Wang fails to teach or suggest this claimed feature in this regard, too.

At least for the reasons set forth above, the invention defined in independent claims 1, 10 and 18, and their dependent claims is believed to be patentable over Wang. Withdrawal of the rejection is respectfully requested.

III. NEW CLAIMS 19-24

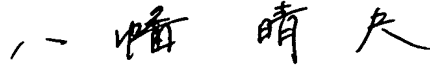
Claims 19-24 have been added. As discussed earlier in section I, claims 19-21 are believed to be in condition for allowance. Claims 22-24 require that “the control signal from the upstream transmitter to the switch component activates and deactivates the amplifier.” Support for this addition of claims is found at, for example, page 18, lines 14-18; page 20, lines 4-16; and page 22, lines 18-20, referring to FIGS. 4A, 4B and 5.

As shown in FIG. 2 of Wang, the AGC 104 and the driver 108 are controlled by two separate lines, i.e., the TX VAGC signal 100, and the PSave signal 110 (column 6, lines 35-52). In other words, in Wang, the control signal for the driver 108 does not control the AGC 104. Therefore, Wang cannot be said to disclose the above-identified feature in claims 22-24. Thus, claims 22-24 are believed to be in condition for allowance.

IV. CONCLUSION

Applicants believe that all pending claims are in condition for allowance, and respectfully requests a Notice of Allowance at an early date. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 510-843-6200.

Respectfully submitted,
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APPENDIX -- VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

New claims 19-24 have been added as follows:

19. (New) A cable modem capable of reducing noise leakage on the upstream channel in a cable plant comprising:

an upstream transmitter having a control line on which the upstream transmitter can emit a control signal;

a switch component capable of being enabled and disabled by the control signal on the control line, such that the control signal from the upstream transmitter to the switch component enables the switch component thereby allowing a data signal to be transmitted on an upstream channel; and

an amplifier for amplifying the data signal from the upstream transmitter before being transmitted on the upstream channel,

wherein the switch component is contained in the amplifier.

20. (New) The cable modem of claim 19 wherein the amplifier is a variable amplifier.

21. (New) A method of reducing noise leakage from a cable modem onto a cable plant, the method comprising:

activating a switch component in the cable modem by sending a control signal from an upstream transmitter to the switch component when the upstream transmitter is ready to transmit a data signal upstream;

transmitting the data signal on the upstream channel;

deactivating the switch component by sending the control signal from the upstream transmitter to the switch component after the data signal has been transmitted on the upstream channel thereby reducing noise leakage when the cable modem is not actively transmitting and terminating noise from the cable plant when the cable modem is not powered;

determining whether an amplifier in the cable modem can enable at a sufficient speed to not cause data packet collisions; and

activating only the switch component if the amplifier cannot enable at a sufficient speed.

22. (New) The cable modem of claim 1, wherein the control signal from the upstream transmitter to the switch component activates and deactivates the amplifier.

23. (New) The method of claim 10 further comprising activating and deactivating the amplifier by the control signal from the upstream transmitter to the switch component.

24. (New) The apparatus of claim 18 further comprising means for activating and deactivating the amplifier by the control signal from the upstream transmitter to the switch component.